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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/991,108

11/16/2001

Michael Burrows

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03/07/2005

EXAMINER

CHAI, LONGBIT

Attn: Richard P. Lange
HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

ART UNIT

PAPER NUMBER

2131

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,108

Applicant(s)

BURROWS ET AL.

Examiner

Longbit Chai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/16/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Applicant's claim for benefit of domestic priority under 35 U.S.C. 119(e) is acknowledged.

The application is filed on 11/16/2001 but has a U.S. provisional application number 60/252,821 filed on 11/22/2000.

Claim Objections

2. Claim 24 is objected to because of the following informalities: "The method of claim 1" should be "The method of claim 22". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 1, 5, 6, 8, 12 – 14, 22, 26, 27, 29 and 32 – 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Bass (Patent Number: 6185185), hereinafter referred to as Bass.

As per claim 1 and 22, Bass teaches a method for limiting the impact of undesirable behavior of computers on a network through which packets of data are interchanged between the computers, comprising:

monitoring the network for any patterns of behavior (Bass: see for example, Column 3 Line 37 – 38);

determining, upon discovering that one or more of the patterns of behavior is undesirable, a type of the undesirable pattern of behavior (Bass: see for example, Column 3 Line 58 – 62);

determining a proper action for mitigating that type of undesirable behavior, the proper action including preventing dissemination through the network of packets associated with the undesirable behavior and allowing dissemination of packets not associated with the undesirable (Bass: see for example, Column 3 Line 35 – 57).

As per claim 5 and 26, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass further teaches the undesirable pattern of behavior is characterized in that it matches behavior defined by a network administrator as notable or undesirable (Bass: see for example, Column 3 Line 45).

As per claim 6 and 27, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass further teaches the undesirable pattern of behavior is any network pathology characterized as a broadcast storm or an address resolution protocol (ARP) fight (Bass: see for example, Column 3 Line 45 – 65).

As per claim 8 and 29, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass further teaches preventing the dissemination of the undesirable pattern of behavior includes discarding the packets associated with such behavior, isolating any of the computers at which such behavior originates, or isolating any network segments at which such behavior originates (Bass: see for example, Column 3 Line 13 – 65).

As per claim 12 and 33, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass further teaches the network is a shared data network (Bass: see for example, Column 6 Line 50).

As per claim 13 and 32, Bass teaches the claimed invention as described above (see claim 11 and 31 respectively). Bass further teaches the network is a switched Ethernet network and the forwarding device is a switch (Bass: see for example, Column 6 Line 27).

As per claim 14, Bass teaches the claimed invention as described above (see claim 11). Bass further teaches the network is a bridged Ethernet network and the forwarding device is a bridge or a smart bridge (Bass: see for example, Column 10 Line 28).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A person shall be entitled to a patent unless –

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16, 18 – 19, 35, 37 – 38, 42, 45 – 50, 52 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Leeds (Patent Number: 6393465), hereinafter referred to as Leeds.

As per claim 42, Bass teaches a system for limiting the impact of undesirable behavior of computers on a network through which packets of data are interchanged between the computers, comprising:

one or more forwarding devices (Bass: see for example, Column 1 Line 60 – 62);

and

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one or more packet traffic monitors each including means for monitoring the network for any patterns of behavior, including, if available, information about a pattern of behavior from any of the computers about another one of the computers (Bass: see for example, Column 3 Line 37 – 38);

means for determining, upon discovering that one or more of the patterns of behavior is undesirable, a type of the undesirable pattern of behavior (Bass: see for example, Column 3 Line 58 – 62);

means for determining a proper action for mitigating that type of undesirable behavior, the proper action, performed by mitigation means controlling the one or more forwarding devices, including preventing dissemination through the network of packets associated with the undesirable behavior and allowing dissemination of packets not associated with the undesirable behavior (Bass: see for example, Column 3 Line 35 – 57);

Bass does not disclose expressly means for determining if the information about the pattern of behavior from any of the computers is trustworthy.

Leeds teaches means for determining if the information about the pattern of behavior from any of the computers is trustworthy (Leeds: see for example, Column 6 Line 51 – 52, Column 7 Line 6 – 13 and Column 7 Line 45 – 51).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Leeds within the system of Bass because Leeds teaches providing an effective mechanism to prevent broadcast storm

by using a email filter associated with an authenticator (Leeds: see for example, Column 1 Line 10 – 16, Column 2 Line 26 – 51).

As per claim 16 and 35, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly the proper action includes alerting a system administrator about the existence of the undesirable pattern of behavior.

Leeds teaches the proper action includes alerting a system administrator about the existence of the undesirable pattern of behavior (Leeds: see for example, Column 7 Line 47).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Leeds within the system of Bass because Leeds teaches email handling system would be warned upon the detection of junk email so that the administrator can take proper actions to prevent the email from being transmitted any further to users (Leeds: see for example, Column 7 Line 45 – 47, Column 8 Line 47 – 57).

As per claim 18 and 37, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly if available from any one of the computers, the monitored pattern of behavior further includes information about a pattern of behavior by another one of the computers, the method further comprising: determining if the information about the pattern of behavior is trustworthy:

Leeds teaches if available from any one of the computers, the monitored pattern of behavior further includes information about a pattern of behavior by another one of the computers, the method further comprising: determining if the information about the pattern of behavior is trustworthy (Leeds: see for example, Column 7 Line 12 – 13).

See the same rationale of combination as addressed above in rejecting claim 42.

As per claim 19 and 38, Bass teaches the claimed invention as described above (see claim 18 and 37 respectively). Bass does not disclose expressly filters and network configuration parameters are used in determining the trustworthiness.

Leeds teaches filters and network configuration parameters are used in determining the trustworthiness (Leeds: see for example, Column 7 Line 5 – 13).

See the same rationale of combination as addressed above in rejecting claim 42.

As per claim 45, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches the packet traffic monitor is a separate device connected to the network and through the network to the one or more forwarding devices (Bass: see for example, Column 10 Line 29 and Column 4 Line 54).

As per claim 46, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches one or more of the computers have a dedicated built-in packet traffic monitor (Bass: see for example, Column 10 Line 20 –30).

As per claim 47, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches one or more of the forwarding devices have a dedicated built-in packet traffic monitor (Bass: see for example, Column 10 Line 20 –30).

As per claim 48, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches the network is a switched Ethernet network and forwarding devices are switches (Bass: see for example, Column 6 Line 27).

As per claim 49, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches the one or more forwarding devices include any combination of zero or more switches and routers (Bass: see for example, Column 10 Line 20 – 30).

As per claim 50, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches the network is a bridged network and the forwarding devices are bridges or smart bridges (Bass: see for example, Column 10 Line 28).

As per claim 52, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further teaches the one or more packet traffic monitors is placed in a strategic location of the network that is intended to maximize the packet traffic monitor's effectiveness in monitoring and mitigating the patterns of undesirable behavior, the strategic locations including a high-speed network segment (Bass: see for example, Column 6 Line 51).

As per claim 54, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass further the one or more packet traffic monitors is implemented as a software module (Bass: see for example, Column 10 Line 20 – 30 and Column 4 Line 55 – 57).

5. Claims 2, 9 – 11, 20, 23, 30 – 31 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Regan (Patent Number: 6578086), hereinafter referred to as Regan.

As per claim 2 and 23, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly a discovery, including that of a network topology, facilitates the network monitoring and type of undesirable behavior determination.

Regan teaches a discovery, including that of a network topology, facilitates the network monitoring and type of undesirable behavior determination (Regan: see for example, Column 4 Line 58 – 60, Column 6 Line 40 – 45 and Column 2 Line 11 – 13).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Regan within the system of Bass because Regan teaches providing a mechanism for dynamically managing the topology of a data network to improve the network performance (Regan: see for example, Column 2 Line 55 – 63 and Column 1 Line 60 – 66).

As per claim 9, Bass teaches the claimed invention as described above (see claim 1). Bass teaches wherein the undesirable pattern of behavior is a broadcast storm; and learning historical packet traffic statistics for any segment of the network (Bass: see for example, Column 1 Line 39 – 44).

Bass does not disclose expressly wherein the monitoring includes recovering a topology of the network using information obtained through a network management protocol interface.

Regan teaches wherein the monitoring includes recovering a topology of the network using information obtained through a network management protocol interface (Regan: see for example, Column 4 Line 58 – 60, Column 6 Line 40 – 45 and Column 2 Line 11 – 13).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Regan within the system of Bass

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because Regan teaches providing a mechanism for dynamically managing the topology of a data network to improve the network performance (Regan: see for example, Column 2 Line 55 – 63 and Column 1 Line 60 – 66).

As per claim 10, Bass teaches the claimed invention as described above (see claim 9). Bass does not disclose expressly the network management protocol is the simple network management protocol (SNMP). However, Official Notice is taken that the use of SNMP is one of the most widely used methods in the field for network management protocol.

As per claim 11 and 31, Bass teaches the claimed invention as described above (see claim 1 and 23 respectively). Bass does not disclose expressly the undesirable pattern of behavior is a broadcast storm, and wherein the monitoring includes learning a topology of the network from a forwarding database or table of a forwarding device in the network.

Regan teaches the undesirable pattern of behavior is a broadcast storm, and wherein the monitoring includes learning a topology of the network from a forwarding database or table of a forwarding device in the network (Regan: see for example, Column 3 Line 1 – 10).

See the same rationale of combination as addressed above in rejecting claim 2.

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As per claim 20 and 39, Bass in view of Regan teaches the claimed invention as described above (see claim 2 and 23 respectively). Regan further teaches understanding the network topology facilitates disablement of ports in forwarding devices that connect to offending computers (Regan: see for example, Column 6 Line 15 – 25).

As per claim 30, claim 30 does not further teach over claim 9 and 10. Therefore, see same rationale addressed above in rejecting claim 9 and 10

6. Claims 3 – 4, 24 – 25 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Rodeheffer (Patent Number: 5260945), hereinafter referred to as Rodeheffer.

As per claim 3 and 24, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly the dissemination through the network of packets associated with the undesirable behavior is prevented for a time period that is lengthened gradually as long as the undesirable behavior continues or intermittently reappears, the time period being gradually shortened if the undesirable behavior stops for a predetermined time.

Rodeheffer teaches the dissemination through the network of packets associated with the undesirable behavior is prevented for a time period that is lengthened gradually as long as the undesirable behavior continues or intermittently reappears, the time

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period being gradually shortened if the undesirable behavior stops for a predetermined time (Rodeheffer: see for example, Column 1 Line 42 – 48, Column 2 Line 9 – 45, Column 3 Line 21 – 26 and Column 7 Line 1 – 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Rodeheffer within the system of Bass because (a) Bass teaches identifying the network undesirable behavior such as broadcast storm and (b) Rodeheffer teaches providing for an optimized recovery time period of network failures that can minimize the disruption time by considering the information records of failure recovery history (Rodeheffer: see for example, Column 1 Line 13 – 16 and Column 2 Line 34 – 45).

As per claim 4, 25 and 41, Bass in view of Rodeheffer teaches the claimed invention as described above (see claim 3, 22 and 24 respectively). Rodeheffer further teaches the time period corresponds to a skepticism level that depends on a history of the undesirable pattern of behavior, a skepticism level zero (0) denoting a good history (Rodeheffer: see for example, Column 3 Line 20 – 26 and Column 5 Line 62 – 67).

7. Claims 7, 15, 17, 28, 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Arndt (Patent Number: 6826611), hereinafter referred to as Arndt.

As per claim 7 and 28, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly the undesirable pattern of behavior includes any one or more of a stolen Internet protocol (IP) address, a stolen media access control (MAC) address, a malformed packet, too many packets directed to an overloaded server, too many probe packets directed to a firewall or too many ARP request packets.

Arndt teaches the undesirable pattern of behavior includes any one or more of a stolen Internet protocol (IP) address, a stolen media access control (MAC) address, a malformed packet, too many packets directed to an overloaded server, too many probe packets directed to a firewall or too many ARP request packets (Arndt: see for example, Column 1 Line 20 – 25).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Arndt within the system of Bass because Arndt teaches preventing a typical network fault caused by conflicting and overlapping network traffic associated with mis-configured IP addresses (Arndt: see for example, Column 1 Line 15 – 25).

As per claim 15 and 34, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly the undesirable pattern of behavior is too many ARP requests and wherein the monitoring includes verifying stability and lack of conflicts in an IP or MAC address mapping.

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Arndt teaches the undesirable pattern of behavior is too many ARP requests and wherein the monitoring includes verifying stability and lack of conflicts in an IP or MAC address mapping (Arndt: see for example, Column 2 Line 5 – 20).

Same rationale of combination addressed herein as above in rejecting claim 7.

As per claim 17 and 36, Bass teaches the claimed invention as described above (see claim 1 and 22 respectively). Bass does not disclose expressly the undesirable pattern of behavior is a simultaneous use of a network address, and wherein the proper action includes disabling any address associated to the network address that contradicts an address list in a network server or disabling any associated address that is not included in a list of addresses that are allowed to map to the network address.

Arndt teaches the undesirable pattern of behavior is a simultaneous use of a network address, and wherein the proper action includes disabling any address associated to the network address that contradicts an address list in a network server or disabling any associated address that is not included in a list of addresses that are allowed to map to the network address (Arndt: see for example, Column 3 Line 63 – 65).

Same rationale of combination addressed herein as above in rejecting claim 7.

8. Claims 21 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of

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Rodeheffer (Patent Number: 5260945), hereinafter referred to as Rodeheffer, and in view of Singh (Patent Number: 6453430), hereinafter referred to as Singh.

As per claim 21 and 40, Bass in view of Rodeheffer teaches the claimed invention as described above (see claim 3 and 22). Bass in view of Rodeheffer does not disclose expressly the time period becomes longer in a random exponential backoff before an attempt is made to allow resumption of the packets from any offending computer that originated the undesirable pattern of behavior, the time period becoming longer if the undesirable pattern of behavior reoccurs during a current backoff time, the time period becoming shorter if the undesirable pattern of behavior disappears and does not reoccur in the current backoff time.

Singh teaches the recovery time can be associated with an exponential recovery time interval (Singh: see for example, Column 4 Line 40 – 47).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Singh within the system of Bass in view of Leeds because Singh teaches providing significant advancements in fault management for recovery / restart sequence in a real-time or mission critical environments such as data communication networking devices or applications (Singh: see for example, Column 2 Line 32 – 39).

Accordingly, Bass in view of Rodeheffer and Singh teaches the time period becomes longer in a random exponential backoff before an attempt is made to allow resumption of the packets from any offending computer that originated the undesirable

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pattern of behavior, the time period becoming longer if the undesirable pattern of behavior reoccurs during a current backoff time, the time period becoming shorter if the undesirable pattern of behavior disappears and does not reoccur in the current backoff time.

9. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Leeds (Patent Number: 6393465), hereinafter referred to as Leeds, and in view of Regan (Patent Number: 6578086), hereinafter referred to as Regan.

As per claim 43, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly means for discovery, including that of the network topology, facilitates network monitoring and type of undesirable behavior determination.

Regan teaches means for discovery, including that of the network topology, facilitates network monitoring and type of undesirable behavior determination (Regan: see for example, Column 4 Line 58 – 60, Column 6 Line 40 – 45 and Column 2 Line 11 – 13).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Regan within the system of in view of Leeds because Regan teaches providing a mechanism for dynamically managing the

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topology of a data network to improve the network performance (Regan: see for example, Column 2 Line 55 – 63 and Column 1 Line 60 – 66).

10. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Leeds (Patent Number: 6393465), hereinafter referred to as Leeds, in view of Singh (Patent Number: 6453430), hereinafter referred to as Singh, and in view of Rodeheffer (Patent Number: 5260945), hereinafter referred to as Rodeheffer.

As per claim 44, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly the dissemination through the network of packets associated with the undesirable behavior is prevented for a time period that is exponentially exceeding as long as the undesirable behavior continues or intermittently reappears, the time period being exponentially shortened if the undesirable behavior stops for a predetermined time.

Singh teaches the recovery time can be associated with an exponential recovery time interval (Singh: see for example, Column 4 Line 40 – 47).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Singh within the system of Bass in view of Leeds because (a) Bass in view of Leeds teaches identifying the network undesirable behavior such as broadcast storm and (b) Singh teaches providing significant advancements in fault management for recovery / restart sequence in a real-time or

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mission critical environments such as data communication networking devices or applications (Singh: see for example, Column 2 Line 32 – 39).

Bass in view of Leeds and Singh does not disclose expressly the recovery time is a time period that is exponentially exceeding as long as the undesirable behavior continues or intermittently reappears, the time period being exponentially shortened if the undesirable behavior stops for a predetermined time.

Rodeheffer teaches a recovery time period exceeding as long as the undesirable behavior continues or intermittently reappears, the time period being shortened if the undesirable behavior stops for a predetermined time (Rodeheffer: see for example, Column 1 Line 42 – 48, Column 2 Line 9 – 45, Column 3 Line 21 – 26 and Column 7 Line 1 – 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Rodeheffer within the system of Bass in view of Leeds and Singh because (a) Bass in view of Leeds and Singh teaches identifying the network undesirable behavior such as broadcast storm and providing significant advancements for recovery / restart sequence for data communication networking devices or applications (b) Rodeheffer teaches providing for an optimized recovery time period of network failures that can minimize the disruption time by considering the information records of failure recovery history (Rodeheffer: see for example, Column 1 Line 13 – 16 and Column 2 Line 34 – 45).

Accordingly, Bass in view of Leeds and Singh and Rodeheffer teaches the dissemination through the network of packets associated with the undesirable behavior

is prevented for a time period that is exponentially exceeding as long as the undesirable behavior continues or intermittently reappears, the time period being exponentially shortened if the undesirable behavior stops for a predetermined time.

11. Claims 51, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Leeds (Patent Number: 6393465), hereinafter referred to as Leeds, and in view of Johnson (Patent Number: 5640504), hereinafter referred to as Johnson.

As per claim 51, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly the one or more packet traffic monitors are placed in a strategic location of the network that is intended to maximize the packet traffic monitor's effectiveness in monitoring and mitigating the patterns of undesirable behavior, the strategic locations including one or more locations characterized as being next to an originator of the that behavior, at or next to each computer, at or next to each forwarding device or at the segment where the packets are to be monitored.

Johnson teaches the one or more packet traffic monitors are placed in a strategic location of the network that is intended to maximize the packet traffic monitor's effectiveness in monitoring and mitigating the patterns of undesirable behavior, the strategic locations including one or more locations characterized as being next to an originator of the that behavior, at or next to each computer, at or next to each forwarding

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device or at the segment where the packets are to be monitored (Johnson: see for example, Column 25 Line 10 – 17 and Column 3 Line 39 – 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Johnson within the system of Bass in view of Leeds because Johnson teaches an effective distributed monitoring and control within a flexible network hierarchy (Johnson: see for example, Column 1 Line 5 – 9).

As per claim 55 and 56, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly the software module is a part of an operating system.

Johnson teaches the software module is a part of an operating system (Johnson: see for example, Column 25 Line 10 – 17 and Column 3 Line 39 – 42).

See the same rationale of combination as addressed above in rejecting claim 51.

12. Claims 53, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bass (Patent Number: 6185185), hereinafter referred to as Bass, in view of Leeds (Patent Number: 6393465), hereinafter referred to as Leeds, and in view of Lewis (Patent Number: 6285748), hereinafter referred to as Lewis.

As per claim 53, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly the one or more packet traffic monitors is placed in a strategic location of the network that is

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intended to maximize the packet traffic monitor's effectiveness in monitoring and mitigating the patterns of undesirable behavior, the strategic locations including a place next to or at a network server.

Lewis teaches the one or more packet traffic monitors is placed in a strategic location of the network that is intended to maximize the packet traffic monitor's effectiveness in monitoring and mitigating the patterns of undesirable behavior, the strategic locations including a place next to or at a network server (Lewis: see for example, Column 2 Line 28 – 34 and Figure 3).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Lewis within the system of Bass in view of Leeds because Lewis teaches a network traffic monitor and control technique so that the network performance can be optimized (Lewis: see for example, Column 2 Line 27 – 34).

As per claim 57, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly the one or more packet traffic monitors co-operate with one another in the discovery of the patterns of behavior.

Lewis teaches the one or more packet traffic monitors co-operate with one another in the discovery of the patterns of behavior (Lewis: see for example, Column 6 Line 35 – 48 and Column 8 Line 1 – 20).

See the same rationale of combination as addressed above in rejecting claim 53.

As per claim 58, Bass in view of Leeds teaches the claimed invention as described above (see claim 42). Bass in view of Leeds does not disclose expressly the one or more packet traffic monitors are configured to sample points on the network randomly or selectively rather than sampling the entire network.

Lewis teaches the one or more packet traffic monitors are configured to sample points on the network randomly or selectively rather than sampling the entire network (Lewis: see for example, Figure 3).

See the same rationale of combination as addressed above in rejecting claim 53.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Longbit Chai whose telephone number is 571-272-3788. The examiner can normally be reached on Monday-Friday 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

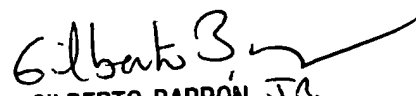
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LBC

Longbit Chai
Examiner
Art Unit 2131



GILBERTO BARRÓN JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100